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Subject: Environmental Defense comments on 1,2-Benzenedicarboxylic acid, 3,4,5,6-tetrabromo-2-(2-hydroxyethoxy) ethyl 2-hydroxypropyl ester (CAS# 77089-07-8)

(Submitted via Internet 7/13/04 to oppt.ncic@epa.gov, hpv.chemrtk@epa.gov, boswell.karen@epa.gov, chem.rtk@epa.gov, MTC@mchsi.com, and marcia\_hardy@albemarle.com)

Environmental Defense appreciates this opportunity to submit comments on the robust summary/test plan for 1,2-Benzenedicarboxylic acid, 3,4,5,6-tetrabromo-2-(2-hydroxyethoxy) ethyl 2-hydroxypropyl ester (CAS# 77089-07-8).

Albemarle Corporation and the Great Lakes Chemical Corporation, in response to EPA's High Production Volume (HPV) Chemical Challenge, have submitted robust summaries and a test plan describing data for 1,2-Benzenedicarboxylic acid, 3,4,5,6-tetrabromo-2-(2-hydroxyethoxy) ethyl 2-hydroxypropyl ester. This chemical is also known as the diol ester of tetrabromophthalic anhydride (TBPA Diol). According to the sponsors, it is used exclusively as a flame retardant sold under the names Saytex RB-79 and Great Lakes PHT4-diol. According to the test plan the commercial product is not a pure chemical, but consists of TBPA Diol monomer and its oligomers. The sponsor indicates that TBPA Diol is used as a flame retardant at levels up to 5 to 15% in rigid polyurethane foam and in urethane elastomers and coatings used in building insulation and specialty coatings. We view its use at levels of 5 to 15% in building insulation and its predicted 15% partitioning into water, according to fugacity modeling, as posing significant potential for it to contaminate groundwater when insulation in which it is used enters a landfill. We realize it is not required, but we would have liked to see this potential problem addressed.

Most of the required SIDS elements for TBPA Diol have been addressed through computer generated estimates. EPA approves the computer models used in generating this data thus these results should be acceptable. However, it should be noted that, since it is not a pure product, the chemical/physical properties, environmental fate and aquatic toxicity of the commercial product would be expected to vary somewhat from those computer-generated estimates based on the structure of pure TBPA Diol. However, since the oligomers contained in the commercial product are larger molecules they are likely to be less soluble, less volatile and less toxic than predicted by the computer models. However, the oligomers may also be more persistent in the environment.

Data obtained from actual studies indicate TBPA Diol is toxic to fish, as is also predicted by the computer model. However, the limited data available indicate TBPA Diol has little toxicity to mammals. The highest dose used was toxic to the test bacteria used in the Ames system for genotoxicity, but it was not toxic or genotoxic at lower doses.

The test plan proposes that additional studies be conducted to address a number of the SIDS elements that are currently addressed by computer

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estimates as well as the repeated dose toxicity and chromosomal aberration endpoints. The test plan proposes not to conduct studies of reproductive/developmental toxicity until results of the repeated dose studies are complete. We would encourage the inclusion of an examination of the reproductive organs in the repeated dose studies in order that its reproductive toxicity might be assessed in these studies and thus limit the use of animals. We would agree that developmental studies could be deferred until results of other studies are available. It is not stated if the studies to be conducted will use pure TBPA Diol or a commercial product. Since the commercial product is more likely to be released into the environment and the general public is more likely to be exposed to the commercial product, we would recommend that it be used in these studies.

In summary, we would have liked more background information on TBPA Diol, including some discussion of the probability of its release when the products in which it is used enter a landfill. However, we are aware that this information is not required in these submissions. We think this submission is otherwise adequate to meet the requirements of the HPV Challenge.

Thank you for this opportunity to comment.

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